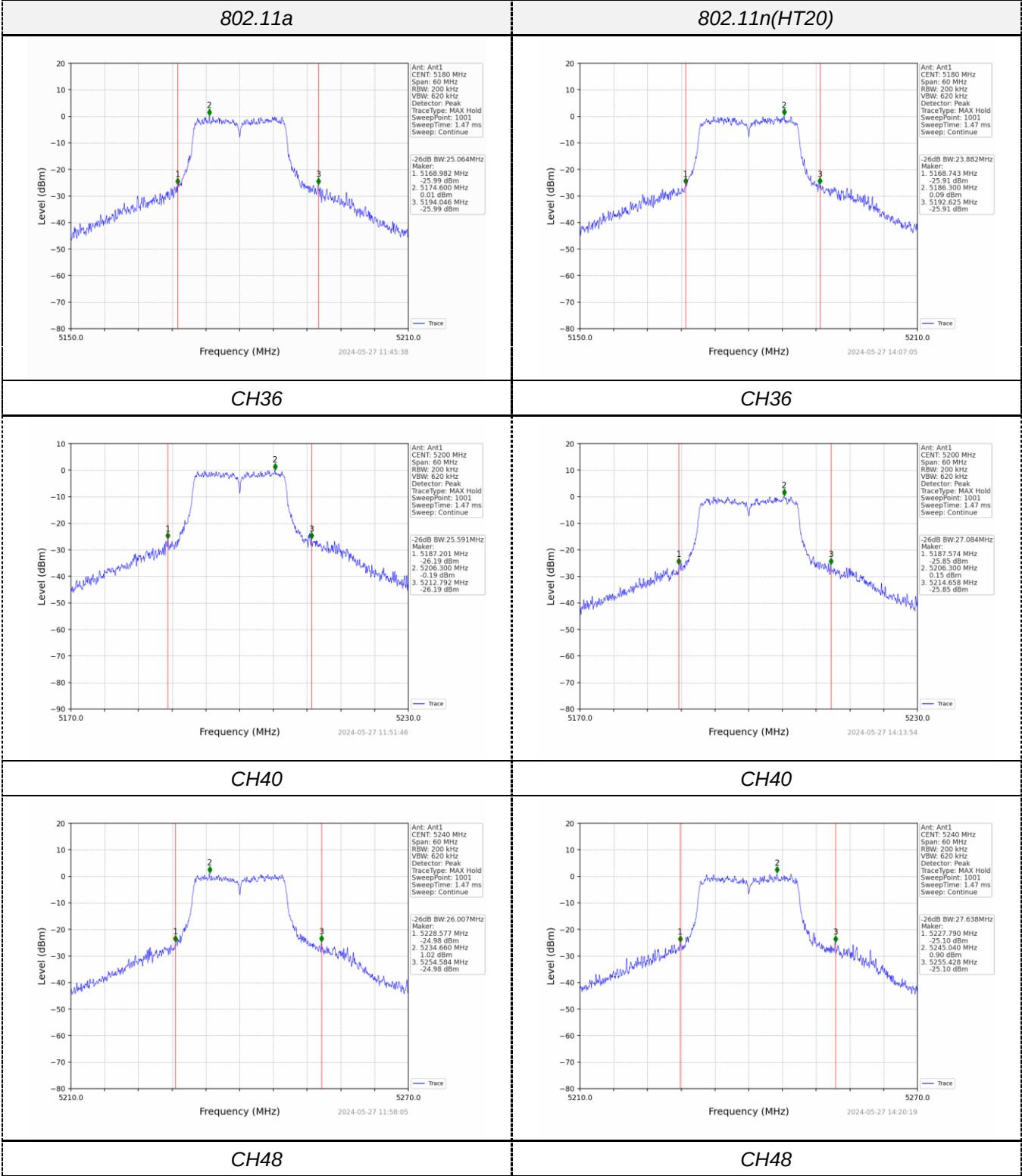
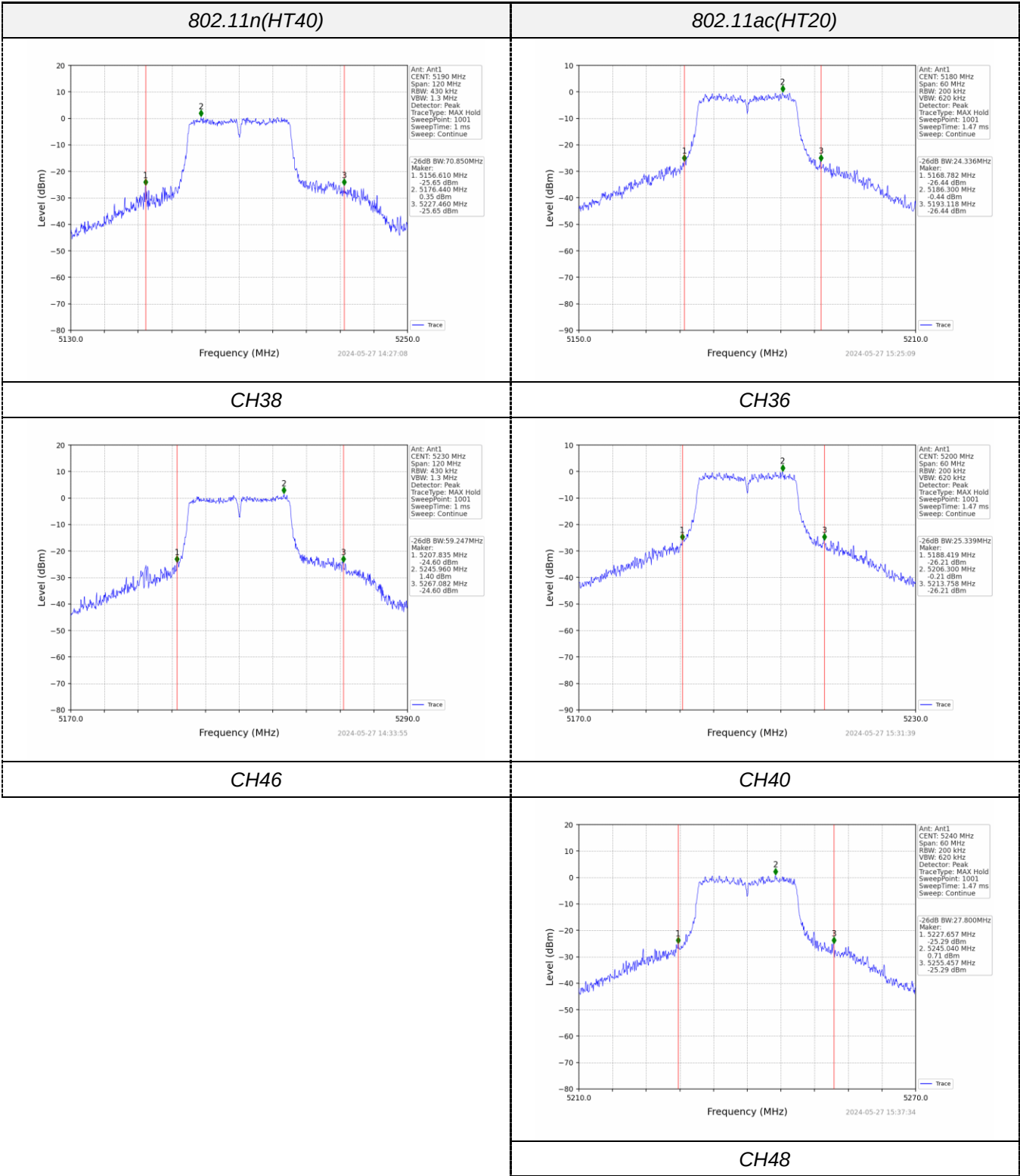
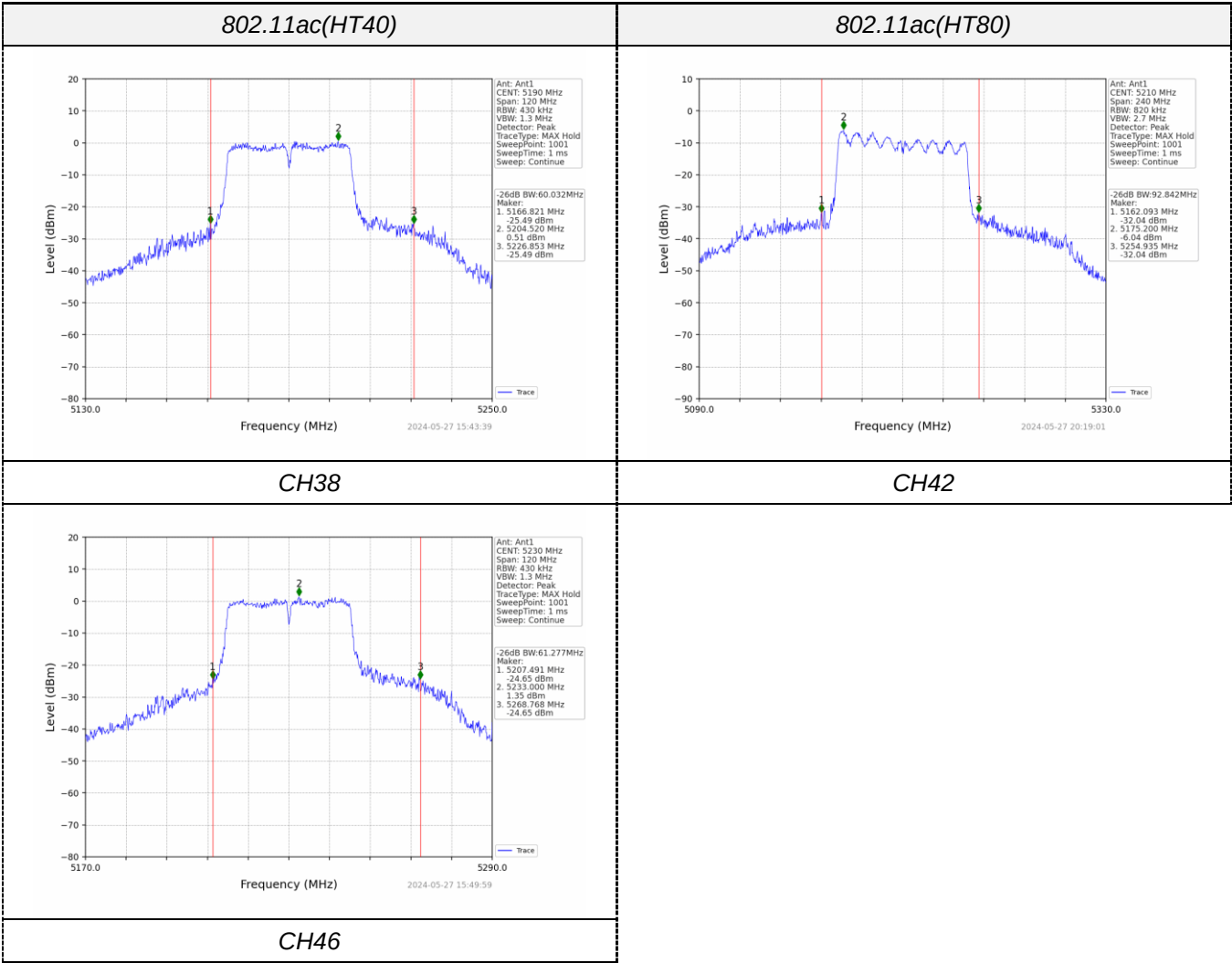


ANT 2







4.6 Minimum Emission Bandwidth (6dB Bandwidth)

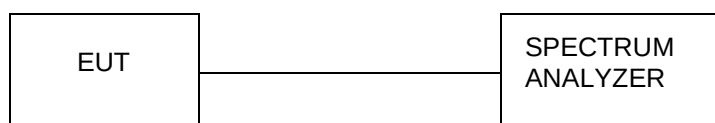
Limit

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth 3 x RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Configuration



Test Results

ANT 1

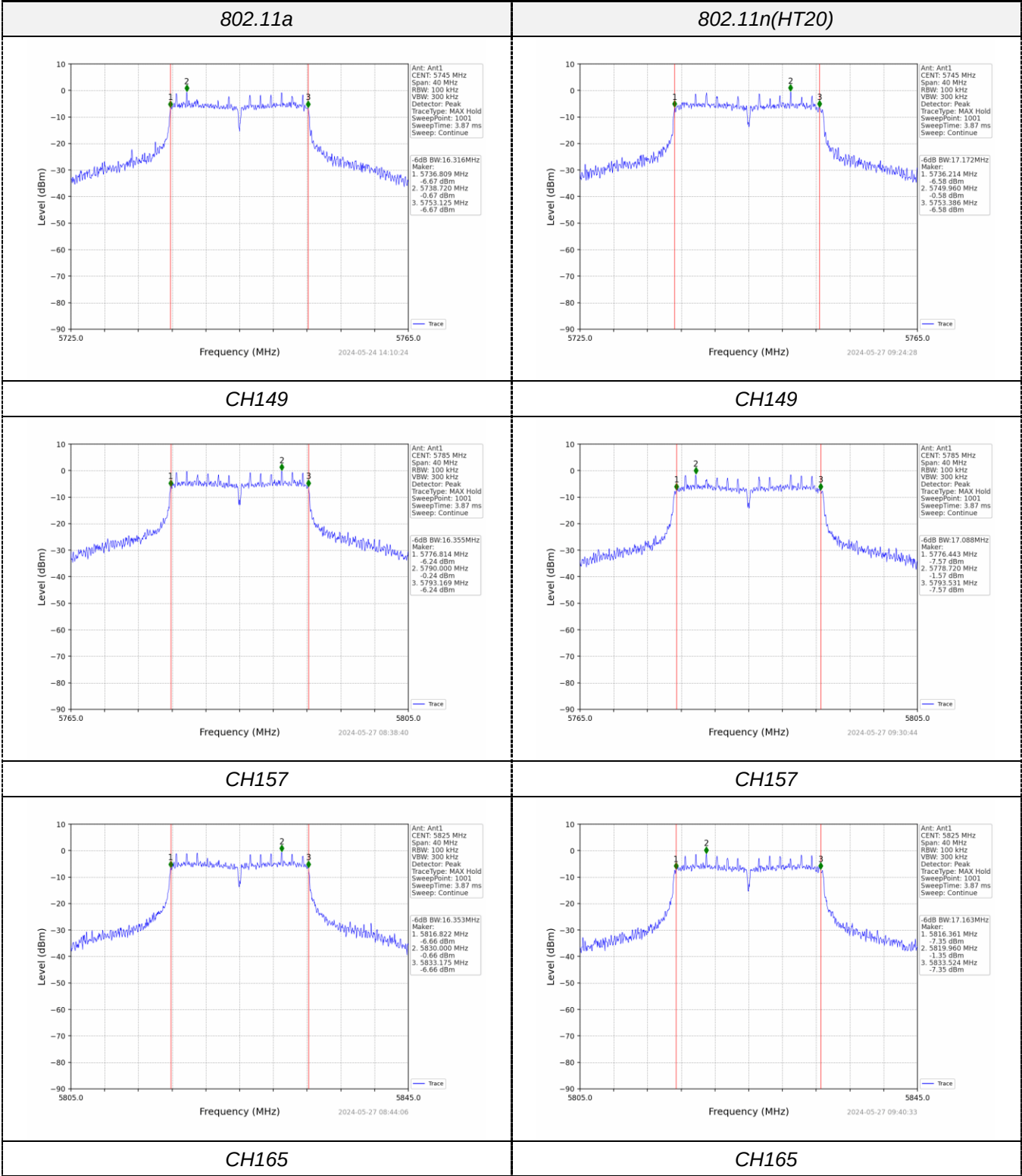
Type	Bands	Channel	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	U-NII 3	149	16.316	≥500KHz	Pass
		157	16.355		
		165	16.353		
802.11n(HT20)	U-NII 3	149	17.172		
		157	17.088		
		165	17.163		
802.11n(HT40)	U-NII 3	151	35.741		
		159	36.107		
802.11ac(HT20)	U-NII 3	149	17.313		
		157	17.312		
		165	17.344		
802.11ac(HT40)	U-NII 3	151	35.906		
		159	36.080		
802.11ac(HT80)	U-NII 3	155	75.181		

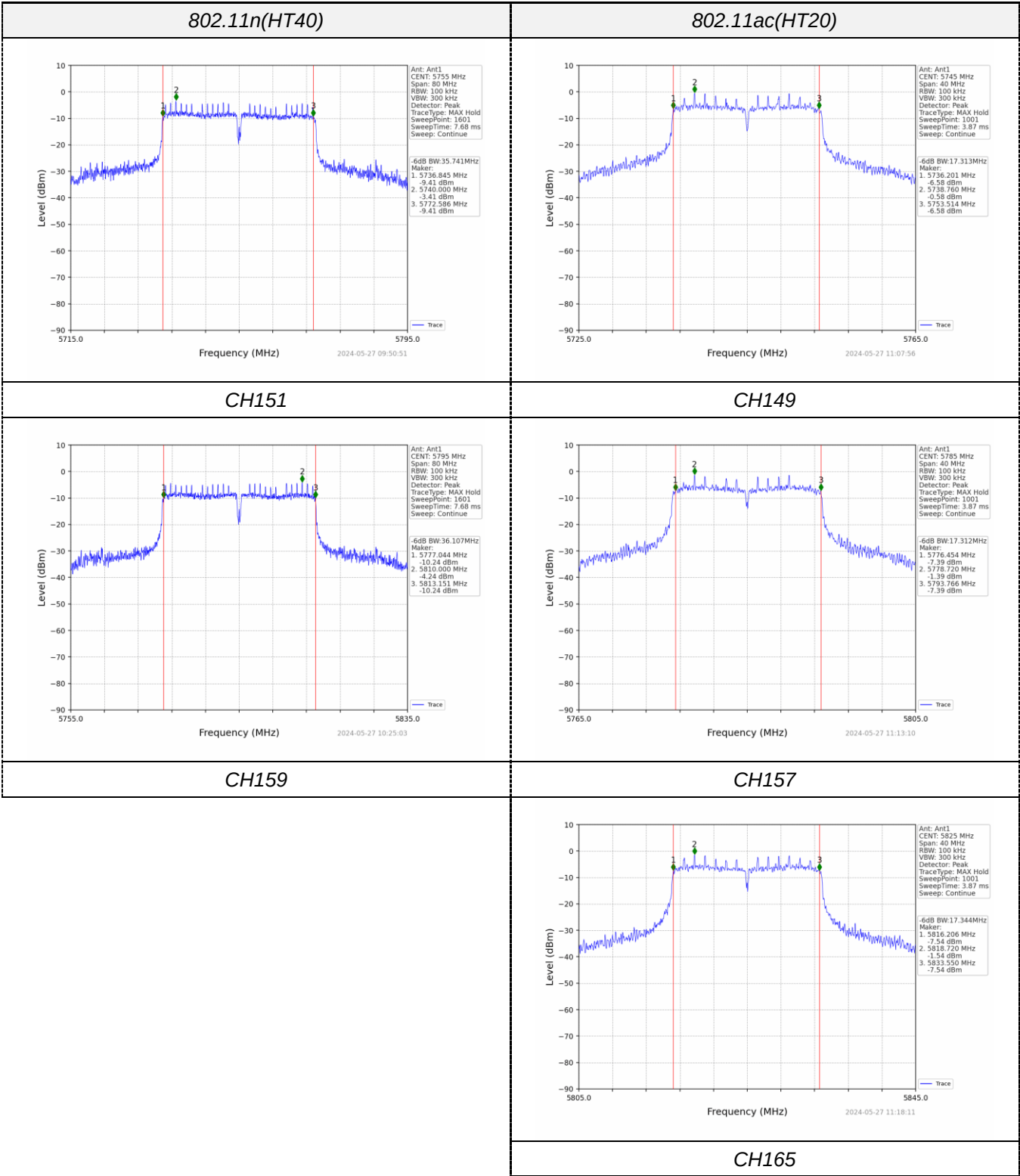
ANT 2

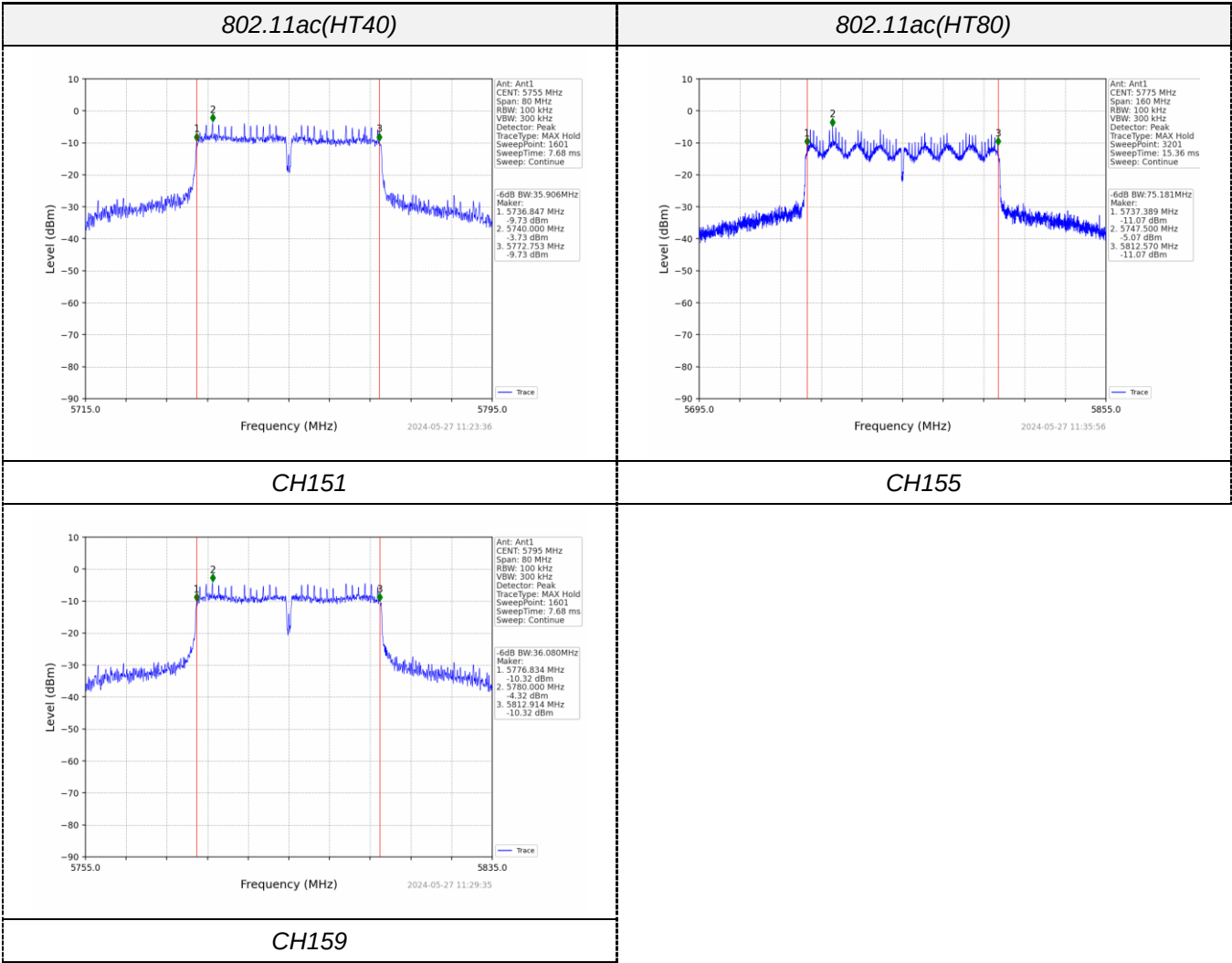
Type	Bands	Channel	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	U-NII 3	149	16.349	≥500KHz	Pass
		157	16.365		
		165	16.369		
802.11n(HT20)	U-NII 3	149	17.346		
		157	17.271		
		165	17.562		
802.11n(HT40)	U-NII 3	151	36.364		
		159	36.313		
802.11ac(HT20)	U-NII 3	149	17.194		
		157	16.993		
		165	16.855		
802.11ac(HT40)	U-NII 3	151	35.705		
		159	36.070		
802.11ac(HT80)	U-NII 3	155	75.159		

Test plot as follows:

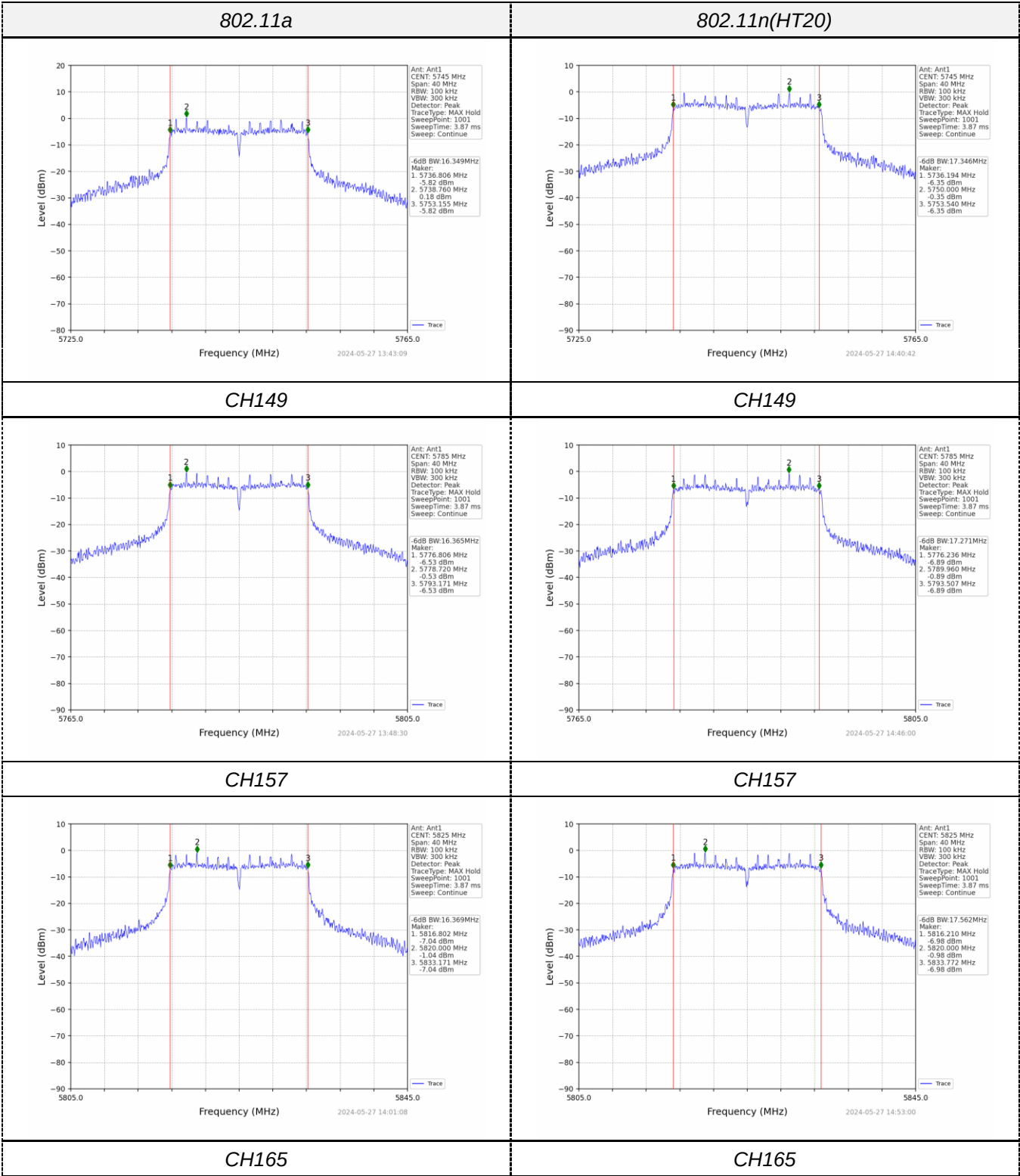
ANT 1

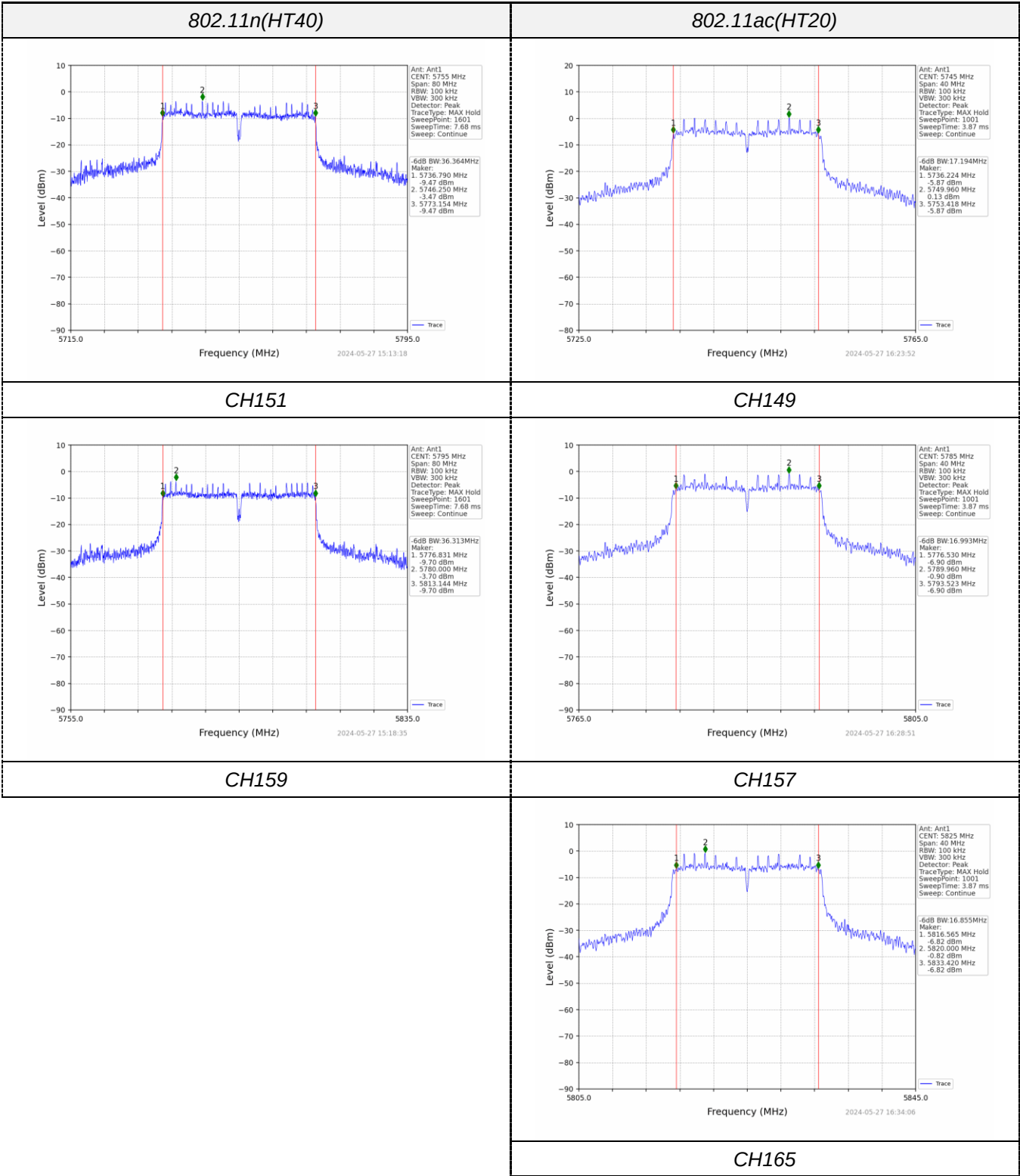


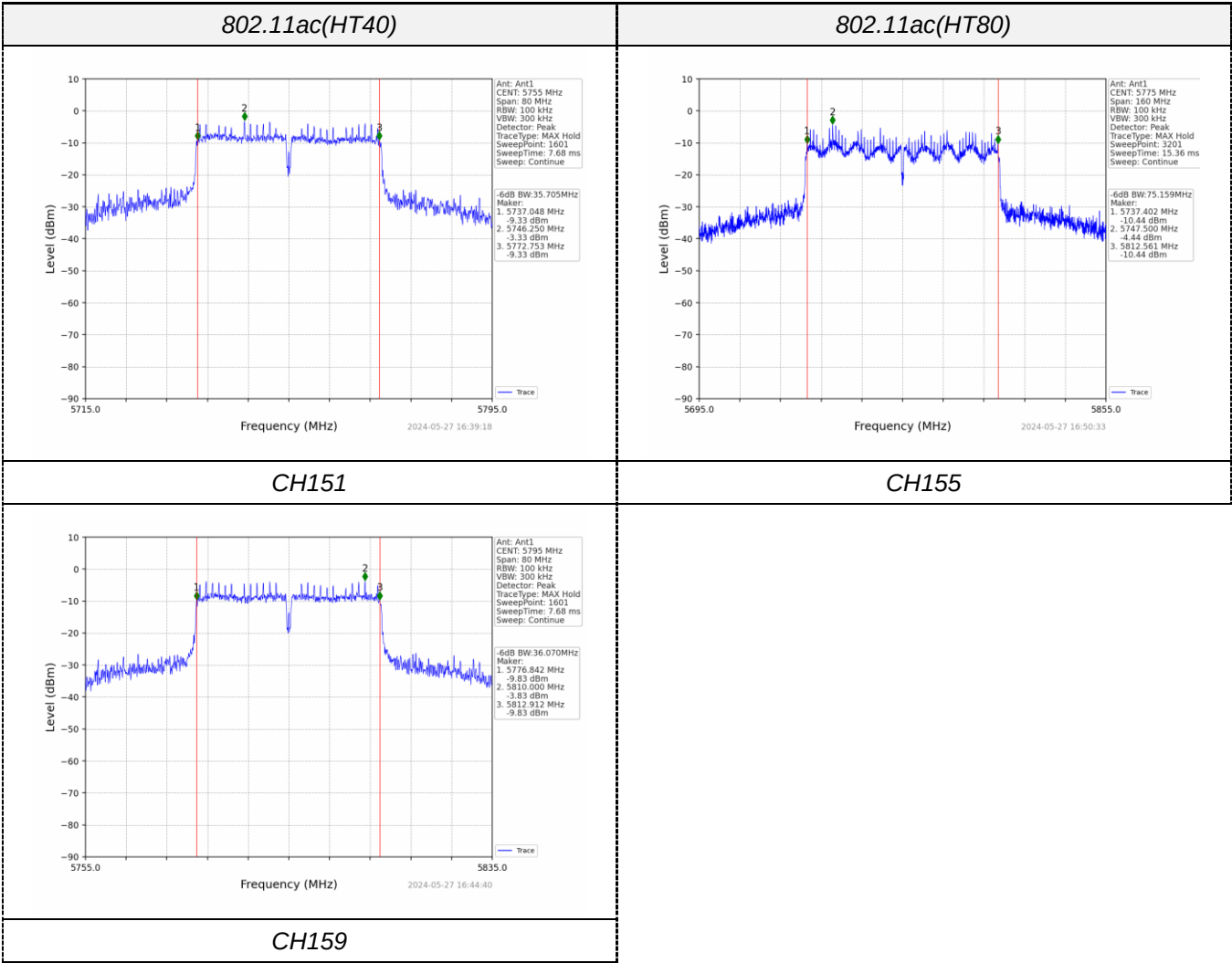




ANT 2





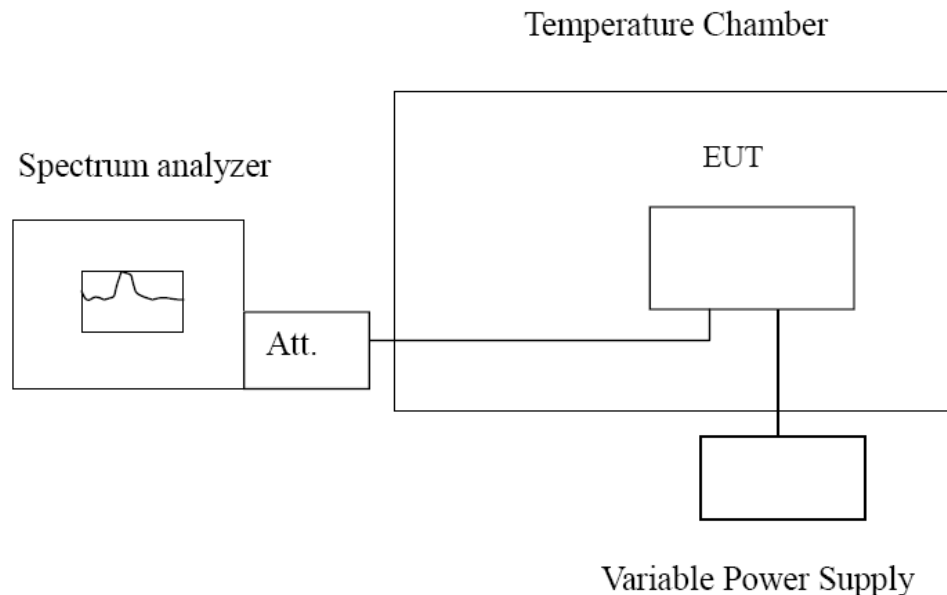


4.7 Frequency Stability

LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

TEST CONFIGURATION



TEST PROCEDURE

Frequency Stability under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

TEST RESULTS

Record worst case as below:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC120	-30	0	0.000000	Within the band of operation	Pass
	-20	20	0.003861		
	-10	0	0.000000		
	0	20	0.003861		
	10	20	0.003861		
	20	40	0.007722		
	30	20	0.003861		
	40	-20	-0.003861		
	50	80	0.015444		
AC132	25	0	0.000000	Within the band of operation	Pass
AC108	25	80	0.015444		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC120	-30	20	0.003861	Within the band of operation	Pass
	-20	-20	-0.003861		
	-10	20	0.003861		
	0	0	0.000000		
	10	-20	-0.003861		
	20	0	0.000000		
	30	40	0.007722		
	40	-60	-0.011583		
	50	20	0.003861		
AC132	25	20	0.003861	Within the band of operation	Pass
AC108	25	60	0.011583		

5 Test Setup Photos of the EUT

Reference to the **appendix I** for details.

6 Photos of the EUT

Reference to the **appendix II** for details.

******* End of Report *******